PART 506 - TECHNICAL MATERIALS

506.00 General.

National conservation engineering technical materials including, in generic terms, documents, drawings, and computer programs, have been developed and refined over many years. These materials reflect NRCS technical expertise, experience, and procedures in the engineering, geologic, and landscape architecture disciplines. Most of these engineering materials are developed to serve as permanent references for providing technical assistance across the range of agency programs. Other engineering materials are produced to provide information to the public on agency projects and practices.

506.01 Definition of Terms.

(a) Working definitions for elements of conservation engineering technical materials include,

(1) Policy- A statement of an adopted and definitive course of action.

(2) Criteria- A policy statement of specific quantitative technical requirements that can contain reference to procedures. As a policy statement, criteria by definition is a subset of policy.

(3) Standard- A statement of acceptable quality or technical excellence in terms of both form and function (performance), usually expressed in terms of limits, i.e. minimum or maximum.

(4) Conservation Practice- A structural measure, a vegetative measure, or a management activity used to protect, enhance, or manage soil, water, air, plant, or animal resources.

(5) Conservation Practice Standard- A set of statements (criteria) that establish the acceptable level of quality for planning, designing, constructing, operating, and maintaining conservation practices.

(6) Guide- A compendium of information or series of options that does not recommend a specific course of action.

(7) Procedure- A method of analysis that can be either a technical or administrative process methodology. It contains a series of steps to be taken to determine a result for a desired objective.

(8) Specification- An explicit set of requirements to be satisfied by a material, product, system, or service, such as construction. It also identifies the methods for determining whether each of the requirements is satisfied.

(9) Conservation Practice Specification- A general or site-specific document that establishes the technical details and workmanship required to install the practice in accordance with the practice standard.

506.02 Organization of Permanent Materials.

(a) Permanent National engineering materials have been issued in the past under a wide variety of titles, formats, and organizations, including National Engineering Handbook Sections (NEH), Technical Releases (TR), Field Manuals, Design Notes, Specification Notes, etc.

(b) NRCS currently utilizes an agency-wide, coordinated system to organize, issue, and manage all of its permanent documents. This system is detailed in the General Manual (120-403) under Subpart A - Directives.

(c) All materials in the Directives system are numbered. The terminology for the numbering system is:
ttt-ppp.ccss

where,

ttt = title number (210 for engineering, etc)
ppp = part number (5xx or V-xxx for topical manuals, etc)
cc = chapter number
ss = section number

(d) Within this NRCS Directives System, all permanent engineering materials will be organized into the following:

(1) General Manual (GM)- The GM is used to issue policy that applies to all offices within the scope of the issuing office. Engineering Parts of the GM are numbered as 210-4xx.

(2) National Engineering Manual (NEM)- The NEM is a topical manual used to issue policy for engineering work and is distributed to offices providing engineering assistance. Parts of the NEM are numbered as 210-5xx.

(3) National Engineering Handbook (NEH)- The NEH is a topical handbook used to issue detailed "how-to" instructions, (i.e. procedures, guides and specifications). Parts are distributed to offices that need the material. Parts of the NEH are numbered as 210-6xx.

(4) National Handbook of Conservation Practices (NHCP)- The NHCP is also a topical handbook used to issue National Conservation Practice Standards and Specifications. This material is established as agency policy and criteria via cross reference in the General Manual. The NHCP is numbered as 450-VI-NHCP.

(5) Automated Systems- This category is used to issue user guides and other documentation for NRCS developed software applications and databases to all offices that use the automated systems. Parts for engineering applications are numbered as 210-7xx.

(6) Instructions (3xx) are also available to issue information, but are seldom used for engineering technical materials. Refer to 120-403.

(e) The National Engineering Handbook (NEH) has been established to provide a unified topical handbook for all permanent conservation engineering procedures, guides and specifications, except those covered in the NHCP. The purpose is to provide a uniform framework for locating technical references, eliminating duplication of distributed materials, and managing the development of new materials. All new or revised technical

procedures and specifications shall be titled and developed as an integral part of the NEH.

(1) The primary table of contents for the NEH shall parallel the table of contents for this NEM in part names and Part numbers, except Part numbers will be 6xx. The primary table of contents for the NEH will also contain additional part names and part numbers for field handbooks which contain engineering material, but are intended primarily for use by non-engineers.

(2) The secondary table of contents for the NEH can be different from the NEM in Chapter titles and numbers, and will be adjusted as new procedures or specifications are added to any part.

506.03 Metrication

(a) The transition to the use of metric units in all government publications has been mandated by Acts of Congress and Presidential Orders.

(b) Approved metric units are referenced in ASTM E380 "Standard Practice for the Use of the International System of Units (SI)". The abbreviation SI is derived from the French "Système International d'Unités and is used in all languages.

(c) During this transition period, every new or revised engineering document shall include approved metric units. Documents should be prepared to either:

(1) use both approved metric units and common inch-pound units such that either set of units are acceptable for consistent use throughout the document, or

(2) use common inch-pound units and include acceptable metric units for information.

(d) Conversion between inch-pound and metric units may be hard or soft conversion depending on industry practice and available equipment or materials.

(1) Soft conversion is the process of changing the description of an existing measurement without a significant change in size or magnitude.

(2) Hard conversion is the process of changing the description of an existing measurement with a change in the size of an existing object or the magnitude of an existing quantity to obtain standard, convenient, rounded, or rationalized dimensions.

(e) Dual units should be shown as inch-pound units with metric units in (parenthesis) when the metric conversion is soft, and metric units in [brackets] when the metric conversion is hard.

506.04 Developing NEH Materials.

(a) The development or major revision of national engineering technical materials should follow an organized process in order to,

(1) focus efforts on priority Agency needs,

(2) involve appropriate disciplines and staffs,

(3) plan the scope of the final product, and

(4) assure organized integration into the NEH.

(b) Anyone working with national technical materials can propose development or revision of any NEH materials that are needed to provide technical assistance under Agency programs. Anyone that has developed technical materials for State or regional use can also propose refinement of the material for National use and inclusion into the NEH. All proposals should be directed to the State Conservation Engineer for consideration. The State Conservation Engineer should forward important proposals on to the Director of Conservation Engineering.

506.05 Distribution of Materials within NRCS.

Initial distribution of national technical material and distribution of amendments, revisions, etc, will be in accordance with distributions established from field needs.

506.06 Distribution of Materials outside NRCS.

NRCS offices at all levels are to respond to requests for engineering technical materials from non-NRCS individuals or organizations. Generally, requests are to be referenced to the National Technical Information Service (NTIS) where NRCS technical materials are available for sale. Copies may be made available to Federal, State, and local agencies, individuals with whom NRCS has established a professional relationship, contractors working with NRCS, and others who may be involved with NRCS programs and contracts.